In the Claims

1-21. (Cancelled)

22. (Previously Presented) A cooling system comprising:

a coolant source;

a coolant supply outlet fluidly connected to the coolant source;

a coolant conduit fluidly connected to the coolant supply outlet and connectable to a welding-type component configured to present an electrode to a weld-type area; and

a sensing device positioned in relative proximity to the coolant supply outlet and configured to provide a component connection status output indicative of connection status of the welding-type component to the coolant supply outlet; and

a controller adapted to maintain coolant circulation if a temperature of the coolant exceeds a set point temperature.

23. (Previously Presented) The cooling system of claim 22 wherein the controller is further adapted to automatically terminate a welding-type output if a temperature of coolant is outside an acceptable temperature range.

24. (Previously Presented) The cooling system of claim 22 further comprising a coolant return inlet fluidly connected to the coolant conduit to return coolant from the welding-type component to the coolant source.

25. (Previously Presented) The cooling system of claim 22 further comprising a coolant pump, a motor assembly, a heat exchanger, and a fan operationally connected to one another to circulate coolant to the welding-type component.

26. (Previously Presented) The cooling system of claim 22 wherein the sensing device is further configured to provide a component disconnection output upon disconnection of the welding-type component from the coolant supply outlet.

27. (Previously Presented) The cooling system of claim 22 disposed within an enclosure having components to condition raw power into power usable by a welding-type process.

28. (Previously Presented) The cooling system of claim 22 wherein the sensing device includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component.

29. (Previously Presented) The cooling system of claim 22 further comprising a pressure sensor to provide feedback as to at least one of coolant pressure and coolant flow through at least one of the coolant supply outlet and the coolant conduit.

30. (Previously Presented) A cooling system comprising:

a coolant source;

a coolant supply outlet fluidly connected to the coolant source;

a coolant conduit fluidly connected to the coolant supply outlet and connectable to a welding-type component configured to present an electrode to a weld-type area;

a sensing device positioned in relative proximity to the coolant supply outlet and configured to provide a component connection status output indicative of connection status of the welding-type component to the coolant supply outlet; and

a controller adapted to electronically communicate with the sensing device and to automatically affect circulation of coolant from the coolant source through the coolant supply outlet and the coolant conduit to the welding-type component when the welding-type component is activated.

31. (Previously Presented) The cooling system of claim 30 wherein the controller is further adapted to affect circulation of coolant from the coolant source through the coolant supply outlet and the coolant conduit only when the welding-type component is connected to the coolant supply outlet.

32. (Previously Presented) The cooling system of claim 30 wherein the controller is further adapted to maintain coolant circulation if a temperature of the coolant exceeds a set point temperature.

33. (Previously Presented) The cooling system of claim 32 wherein the controller is further adapted to automatically terminate a welding-type output if a temperature of coolant is outside an acceptable temperature range.

34. (Previously Presented) The cooling system of claim 30 further comprising a coolant return inlet fluidly connected to the coolant conduit to return coolant from the welding-type component to the coolant source.

35. (Previously Presented) The cooling system of claim 30 further comprising a coolant pump, a motor assembly, a heat exchanger, and a fan operationally connected to one another to circulate coolant to the welding-type component.

36. (Previously Presented) The cooling system of claim 30 wherein the sensing device is further configured to provide a component disconnection output upon disconnection of the welding-type component from the coolant supply outlet.

37. (Previously Presented) The cooling system of claim 30 disposed within an enclosure having components to condition raw power into power usable by a welding-type process.

38. (Previously Presented) The cooling system of claim 30 wherein the sensing device includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component.

39. (Previously Presented) The cooling system of claim 30 further comprising a pressure sensor to provide feedback as to at least one of coolant pressure and coolant flow through at least one of the coolant supply outlet and the coolant conduit.

40. (Currently Amended) A welding system comprising:

a welding torch configured to deliver an electrode to a weld;

a power source connected to the welding torch and designed to condition raw power into a form usable by a welding process;

a cooler connected to the welding torch and designed to circulate coolant to the welding torch;

a temperature sensor to provide feedback as to a temperature of coolant circulating; ~~and~~

a controller configured to receive a coolant temperature signal from the temperature sensor and if coolant temperature exceeds a threshold, transmit a power source shut-down signal to the power source; and

wherein the controller is further configured to detect a connection status of the welding torch to the cooler and regulate the cooler such that coolant is prevented from circulating if the welding torch is disconnected from the cooler.

41. (Cancelled)

42. (Currently Amended) The welding system of claim ~~41~~ 40 wherein the cooler includes a torch connection sensor configured to transmit a torch connected signal to the controller when the welding torch is connected to the cooler.

43. (Previously Presented) The welding system of claim 42 wherein the torch connection sensor includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component.

44. (Previously Presented) A welding system comprising:

a welding torch configured to deliver an electrode to a weld;

a power source connected to the welding torch and designed to condition raw power into a form usable by a welding process;

a cooler connected to the welding torch and designed to circulate coolant to the welding torch;

a pressure sensor to provide feedback as to pressure of coolant circulating; and

a controller further configured to receive a coolant pressure signal from the pressure sensor and if coolant pressure is outside an acceptable range, transmit a shut-down signal to the power source.

45. (Previously Presented) The welding system of claim 40 further configured for TIG welding.

46. (Previously Presented) The welding system of claim 44 wherein the cooler includes a torch connection sensor configured to transmit a torch connected signal to the controller when the welding torch is connected to the cooler.

47. (Previously Presented) The welding system of claim 44 wherein the torch connection sensor includes at least one of a magnetic pick-up device, an electrically conductive coil, a sensor to detect movement of a coolant outlet cover, and a pressure switch designed to output a connection verification signal when engaged by a connecting end of the welding-type component..

48. (Previously Presented) The welding system of claim 44 further comprising a temperature sensor to provide feedback as to a temperature of coolant circulating.

49. (Previously Presented) The welding system of claim 48 wherein the controller is further configured to repeatedly detect a coolant temperature signal and if coolant temperature exceeds a threshold, transmit a power source shut-down signal to the power source.

50. (Previously Presented) The welding system of claim 44 further configured for TIG welding.

51. (Previously Presented) A controller configured to:

detect connection of a welding-type component to a coolant source; and

upon connection, permit circulation of coolant through the welding-type component only upon activation of the welding-type component.

52. (Previously Presented) The controller of claim 51 further configured to monitor a pressure of circulation through the welding-type component and if the pressure is at an unacceptable level, provide a detectable output indicative of errant coolant flow.

53. (Previously Presented) The controller of claim 51 further configured to monitor a temperature of coolant through the welding-type component and if the temperature has an unacceptable value, provide a detectable output indicative of errant coolant temperature.

54. (Previously Presented) A welding-type power source connectable to a welding-type component designed to deliver a welding-type power to a welding-type work area, the power source comprising:

means for cooling;

means for providing welding-type power;

means for outputting welding-type power to an output area;

means for detecting connection of the outputting welding-type power means to the cooling means; and

means for automatically circulating coolant through at least the welding-type power means upon activation of the outputting welding-type power means only if the detecting means detects connection of the outputting welding-type power means to the cooling means.